201-15122

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02/29/2004 11:32 AM

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Subject: Environmental Defense comments on 1-Naphthol (CAS# 90-15-3)

(Submitted via Internet 2/29/04 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, lucierg@msn.com and janet.mostowy@bayerpolvmers.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for 1-Naphthol (CAS# 90-15-3).

The test plan and robust summaries for 1-naphthol were prepared by Bayer CropScience. 1-Naphthol is used as a pigment and as an additive to help shade products. It is also used in inks and various coatings and as a hair dye. 1-Naphthol is also a major metabolite and breakdown product of the widely-used carbamate pesticide, Carbaryl (Sevin), so there is ample opportunity for both environmental and human exposures to this material.

The test plan and robust summaries are complete and well-organized. The sponsor claims that available studies are adequate to fulfill HPV requirements and we agree, with one exception concerning the adequacy of data for the reproductive toxicology endpoint.

Specific comments are as follows:

1. The sponsor accurately states that 1-naphthol exhibits moderate toxicity in all aquatic toxicity tests and that 1-naphthol does not bioaccumulate in the environment. Existing aquatic toxicity studies are sufficient for screening-level purposes.

2. Multiple repeat dose studies are available and although some have methodological problems, taken together, they meet the HPV Challenge screening-level requirements. Effects observed include behavioral problems and spleen and stomach toxicity, with a reported NOEL of 130 mg/kg/day.

3. Multiple genetic toxicity tests indicate that 1-naphthol is not genotoxic, and it is not carcinogenic in a dermal carcinogenicity study in mice.

4. The critical study for reproductive toxicity was a dermal 2-generation study in rats, which used 0.5% 1-naphthol in a hair dye formulation as the test substance. No information was provided on whether it was conducted under GLP, the year of the study is not given, there is no reference and no information is given on the amount of hair dye formulation applied to the skin. Moreover, no toxicokinetic data are provided to determine if 1-naphthol penetrates the skin and reaches potential target organs. The

repeat dose studies do not explicitly state that reproductive tissues were examined in such a way that the need for fertility studies would be obviated. For these reasons, this study is inadequate and cannot be used to fulfill the reproductive toxicology endpoint unless the methodological problems are fully addressed.

5. The developmental toxicology study in rats notes that chromorhinorrehea and eye lacrimation were detected, with a NOEL of 20 mg/kg/day. However, the repeat dose study in rats does not report this effect and a NOEL of 130 mg/kg/day is indicated for the repeat dose studies. Does the sponsor have an explanation for this apparent discrepancy?

Thank you for this opportunity to comment.

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